Amendments to the Specification

Please replace paragraph **[0001]** with the following amended paragraph:

[0001] The present application is related by subject matter to U.S. Patent Application Serial No. ~~*Awaited*~~, 10/720,617 filed November 24, 2003 (Attorney Docket 2003B125) and U.S. Patent Application Serial No. ~~*Awaited*~~, 10/720,607 filed November 24, 2003 (Attorney Docket 2003B126) filed concurrently herewith, the entire contents of which applications are incorporated herein by reference.

Please replace paragraph **[0006]** with the following amended paragraph:

[0006] U.S Patent Application Publication No. 2002/0068843 discloses a catalyst for selectively hydrogenating acetylenic and diolefinic compounds with low green oil formation, the catalyst comprising the following active components loaded on a porous inorganic support: (1) at least one of platinum, palladium, nickel, ruthenium, cobalt, and rhodium; (2) at least one of silver, copper, zinc, potassium, sodium, magnesium, calcium, beryllium, tin, lead, strontium, barium, radium, iron, manganese, zirconium, molybdenum, and germanium; (3) at least one rare earth metal selected from scandium, yttrium, and Lanthanides in Group IIIB of Periodic Table of Elements; and (4) bismuth. Preferably, component (1) is platinum or palladium; component (2) is silver, potassium, or sodium; and component (3) is lanthanum or neodymium.

Please replace paragraph **[0013]** with the following amended paragraph:

[0013] Co-pending U.S. Patent Application Serial No. ~~*Awaited*~~10/720,617, filed November 24, 2003 (Attorney Docket 2003B125), filed concurrently herewith, describes a catalyst and process for selectively hydrogenating alkynes and/or diolefins, wherein the catalyst comprises (a) a rhodium component present in an amount such that the catalyst composition comprises less than 3.0% of rhodium by weight of the total catalyst composition; and (b) an indium component present in an amount such that the catalyst composition comprises at least 0.4% and less than 5.0% of indium by weight of the total catalyst composition.

Please replace paragraph **[0027]** with the following amended paragraph:

[0027] The Periodic Table of Elements referred to herein is the IUPAC version described in the *CRC Handbook of Chemistry and Physics*, 78th Edition, CRC Press, Boca Raton, Florida (1997).

Please replace paragraph **[0037]** with the following amended paragraph:

[0037] In addition to the active metal components discussed above, the catalyst composition may also include a support or binder material. Suitable support materials comprise carbon, silicon nitride, silicon carbide, boron nitride, magnesium silicate, bentonite, zeolites, metal alloys, zirconia, alumina, silica, silica-alumina, ceria-alumina, aluminates (such as aluminates of Groups 1 and 2 ~~and~~ of the Periodic Table of Elements), and magnesium oxide-silicon oxide mixtures. Preferred support materials include zirconia, alumina, and ceria-alumina. The binder or support material conveniently comprises from about 50 wt% to about 99.9 wt%, such as from about 65 wt% to about 99.5 wt%, of the entire catalyst composition.

Please replace paragraph **[0050]** with the following amended paragraph:

[0050] The operating parameters of an alkyne/alkadiene selective hydrogenation process are not narrowly critical and can be controlled in view of a number of interrelated factors including, but not necessarily limited to, the chemical composition of the feedstock, the control systems and design of a particular plant, etc. (i.e., different reactor configurations including front-end, tail-end, MAPD, and BD converters as mentioned briefly above). In general, however, suitable operating parameters include a temperature of from about 20°C to about 150°C, such as from about 30°C to about 100°C, a pressure of from about 100 psig to about 580 psig (690 kPa to 4100 kPa), such as from about 200 psig to about 440 psig (1400 kPa to 3400 kPa), a H_2/C_2H_2 molar feed ratio of from about 1 to about 1000, such as of from about 1.1 to about 800 and, assuming the reaction is in the vapor phase, a GHSV from about 100 to about 20,000, such as from about 500 to about 15,000 or, if the reaction is in the liquid phase, an LHSV of 0.1 to 100, such as from 1 to 25.

Please replace paragraph **[0053]** with the following amended paragraph:

[0053] In the case of a back-end selective hydrogenation reactor, the inlet operating temperature may range from about 30 to about 150°C, such as from about 40 to about 90°C. Representative operating pressures may range from about 100 psig to about 500 psig (about 690 to 3[[,]]500 kPa), such as from about 200 psig to about 400 psig (about 1400 to 2800 kPa). The GHSV may range from about 1000 to about 10,000, such as from about 3000 to about 8000. Further, the H_2/C_2H_2 molar feed ratio may range from about 0.5 to about 20, such as from about 1.0 to about 1.5. The feedstreams in back-end selective hydrogenation processes [[in]] may contain about 2% acetylene, about 70% ethylene, and the balance other C_2 compounds.

Please replace paragraph **[0060]** with the following amended paragraph:

[0060] A rhodium/indium bimetallic catalyst of the type described in our co-pending U.S. Patent Application Serial No. ~~*Awaited,*~~ 10/720,617 filed November 24, 2003 (Attorney Docket 2003B125), filed concurrently herewith, was prepared and tested as follows.

Please replace paragraph **[0070]** with the following amended paragraph:

[0070] 0.6% zirconium: Zirconyl nitrate solution was prepared by diluting the ~~as received~~ zirconyl nitrate solution as obtained from Aldrich as a solution in dilute nitric acid to 14.6 wt% metal using deionized water. The prepared zirconyl nitrate solution (50.3 μL) was mixed with deionized water (1389.7 μL). This diluted solution (120 μL) was added to the supported rhodium-indium product of the first impregnation step and agitated by vibration for 30 minutes at room temperature. The obtained trimetallic material was dried at 120°C for 2 hours and then calcined in air at 450°C for 4 hours.

Support for Amendments to the Specification

The amendments to the specification are responsive to the Office Action to provide patent application serial numbers which had not yet been assigned and to correct minor grammatical errors.